

Letter from Alexander Graham Bell to Gardiner Greene Hubbard, January 18, 1876, with transcript

Boston University, No. 18 Beacon Street, Boston, Jan. 18th, 1876. My dear Mr. Hubbard,

I am glad you are pleased with the Specification and yet there are many points in it in which I can see flaws.

I claim the method of producing an undulatory current by the vibration of a permanent magnet or “ other body capable of inductive action ”.

Now I want this “body capable of inductive action” to cover a brass or copper reed (R) arranged in place of the armature as in the following diagram.

I am convinced from theoretical reasons that brass or copper vibrated in the neighborhood of an electro-magnet or a wire through which a continuous current of electricity is passing — will produce undulations in the voltaire current.

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I remember an experiment that shows that copper when in motion can affect a magnetical needle.

The copper disk (c) when set rotating under a glass cover (g) causes a magnetical needle (m) to spin round too — even when the whole arrangement is placed under the bell (B) of an air-pump — and the air exhausted. I remember also that when a copper disk is set rotating between the poles of a powerful electro-magnet — currents of electricity appear in the disk flowing from the centre to the circumference — or vice versa .

Hence I see clearly that brass, copper and other metals when in motion or vibration — in the neighborhood of a voltaire current — will be capable of affecting the current. I wish this

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covered in some way. I am uncertain whether the term “bodies capable of inductive action” can cover copper, brass, &c. Would it not be better to say “bodies capable of affecting the current”? which would leave it indefinite enough to cover the whole. I think this point of great importance — as I am inclined to think that the inexpensive brass reeds used in organs & harmoniums may be brought into use.

Please bring the original specification with you to New York. I am now writing up a Specification for the Spark-Arrester . I shall communicate with George Brown at once as suggested.

I have just removed into my rooms in No 5 Exeter Place and think I shall like them very much. Mabel 3 is in Hartford & Mrs. Hubbard in New York. I am to call for May on my way to New York probably on Friday.

Berta & Grace are keeping house alone. I went out to see them last night — and found all well.

Your paper has excited a good deal of comment in the Boston Papers. The Journal was piqued that you set down its circulation too low — and the Sunday Herald came out with a leader on the subject.

I forward copy of the Sunday Herald.

With kind regards Yours respectfully, A. Graham Bell.